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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,574	03/28/2001	Dieter Blase	608.0008USU	2561

7590 09/26/2003  
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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 09/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Applicati n No.

09/819,574

Applicant(s)

BLASE ET AL.

Examiner

Krishnan S Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 11,12 and 22-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11,12 and 22-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other:

## DETAILED ACTION

Claims 11, 12 and 22-35 are pending in this application.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23-25, 31 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "The ceramic filter element comprising a collar", and "shoulder defined by main part and the at least one terminal region abutting the collar" are new matter not presented in the application as originally filed. Claim 18 as originally presented defines a collar, but that collar is defined with the module, not with the element. Figure 5 shows an element with a collar, but the claimed inventions must belong to the element depicted in Fig 6, the only disclosure that shows the reduced diameter in the end region. An element with a reduced diameter end portion and a collar, as claimed in the instant claims, is not disclosed in the specification or claims as originally filed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 35 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 recites the limitation "collar" in line 2. There is insufficient antecedent basis for this limitation in the claim. Examiner considers this claim depending from claim 31, which recites collar, for examination purpose.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22 and 26-28 are rejected under 35 U.S.C. 102(b) as anticipated by Keidel et al (US 4,894,070).

Keidel teaches a ceramic filter element comprising a main part and a terminal region having a smaller diameter than the main part (abstract and fig 3b) as in claim 22. Main region and terminal region have circular cross section as in claim 26; and the main and the terminal regions are rod shaped as in claims 27 and 28 (see figure 3b and col 4 lines 31-41)

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcera et al (US 5,602,910) in view of Garcera (104) and Keidel (070).

Garcera (910) teaches a process for the production of a membrane module for filtering a medium, the membrane module having a ceramic filter element (20-fig 5) with rod ends clamped by covers (15, 18-fig 5) that are perpendicular to the filter elements, and having seals between the rod ends and the covers (see fig 8). The process comprises attaching the seal to a rod end and assembling to finish the membrane module (see fig 5-10 and examples).

Garcera (910) does not teach forming the seal by processing a blank seal after mounting on a holder of average dimensions of *the* filter element, and at least one of the rod ends of a smaller diameter. Garcera (104) teaches processing a blank seal after mounting on the filter element itself to form the blank seal (see col 5 line 42-col 6 line 28, fig 6A-9). It would be obvious to one of ordinary skill in the art at the time of invention to use the teachings of Garcera (104) to form the seals for the assembly of the module in Garcera (910) because such seals would provide tight seals with low compression and prevent the filter elements from damaging due to the need for excessive sealing compression (Garcera 104: col 2 lines 39-42). One would also use a filter element of Garcera (910) as a holder for forming multiple seals because filter elements of Garcera (910) have rod ends of uniformly finished dimensions (col 2 lines 17-35) compared to the filter elements of Garcera (104) (col 2 lines 28-35), which are non-uniform. Re the rod end being of a smaller diameter, Keidel teaches a ceramic filter with a rod end of smaller diameter (see abstract, fig 3b and col 4 line 31-41). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of

Keidel in the teaching of Garcera (910) so that the filters could be extended in length by joining two or more filters as taught by Keidel.

Regarding claim 12, the additional limitation of having a reinforced surface is taught by Garcera (104) (col 2 line 65-col 3 line 5).

2. Claims 22, and 26-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcera et al (US 4,849,104) in view of Keidel (070).

Garcera (104) discloses a ceramic filter element (1-fig 1) with a main part and a terminal region as in claim 22, and a membrane module for filtering a medium to at least yield a permeate (col 5 line 42-col 6 line 43, fig 6A – 14B) comprising plurality of ceramic filter elements arranged in parallel (fig 1) as in claim 29

Garcera does not teach at least an element with a terminal region of smaller diameter than the main region as in the instant claims. Keidel teaches an element with a terminal region of shorter diameter (fig 3b). It would be obvious to one of ordinary skill in the art at the time of invention to have the teachings of Keidel in the teaching of Garcera to have elements with smaller terminal diameters for extending the elements length-wise as taught by Keidel (col 4 lines 31-41).

Garcera (104) teaches additional elements of instant claims as follows: The cross sectional shape is circular, etc as in claims 26, 30 (see figures); main and terminal parts are rod shaped as in claims 27 and 28 (see figures). A housing (fig 1), a collar (11 or 41-fig 6a) clamped by covers that are perpendicular to the elements (fig 10) with seals between the cover and the elements (101-fig 10) as in claim 31. The element in Garcera (104) may have reinforcing enamel coating (col 2 lines 19-27) as in claim 32, module having permeate outlet connection (instant claim 16) (fig 1) as in claim 33, the

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cover plate having outer and inner plates with radial expansion space in between for free expansion of the seal (fig 6A) as in claim 34 (53-fig 6C).

3. Claims 23-25 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcera et al (US 4,849,104) in view of Keidel (070) as in claim 22 and further in view of Garcera (US 5,062,910).

Garcera (104) in view of Keidel does not teach an element with a collar. Garcera (910) teaches an element with a collar (see fig 3). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Garcera (910) in the teaching of Garcera (104) in view of Keidel to have a collar for the element to reinforce the element for mechanical strength.

Re claims 25 and 35, the additional element 'collar abuts a shoulder defined by the main part and terminal region', see the figures 7-9 of Garcera (104), wherein the collar could be made to abut the shoulder in place of the rod end. Re the shoulder having ability to take up axial thrust force, see fig 3b of Keidel.

### *Response to Arguments*

Applicant's arguments with respect to claims 11, 12 and 22-35 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon  
Patent Examiner

*Walker*  
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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 17